

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number  
**WO 2005/054445 A1**

(51) International Patent Classification<sup>7</sup>: C12N 5/00, 5/02,  
15/00, 15/09, 15/63, 15/70, 15/74, 15/85, 15/87, A01K  
67/00, 67/03, 67/027

(74) Agents: LICATA, Jane, Massey et al.; Licata & Tyrrell  
PC, 66 E. Main Street, Marlton, NJ 08053 (US).

(21) International Application Number:  
PCT/US2004/037925

(22) International Filing Date:  
12 November 2004 (12.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/524,466 24 November 2003 (24.11.2003) US  
60/604,450 25 August 2004 (25.08.2004) US

(71) Applicant (for all designated States except US): THE  
ROCKFELLER UNIVERSITY [US/US]; Office of  
Technology Transfer, 1230 York Avenue, New York, NY  
10021-6399 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FUCHS, Elaine  
[US/US]; 430 East 63rd Street, Apt. 12A, New York,  
NY 10021 (US). TUMBAR, Tudorita [RO/US]; 500  
East 63rd Street, Apartment 22J, New York, NY 10021  
(US). BLANPAIN, Cedrick [BE/US]; 500 East 63 rd  
Street, Apartment 25k, New York, 10021 (US). LOWRY,  
William, E. [US/US]; 450 East 63rd Street, Apartment  
1G, New York, NY 10021 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,  
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: A METHOD FOR ISOLATING A SELF-RENEWING, MULTIPOTENT SLOW-CYCLING CELL

(57) Abstract: The present invention relates to methods for isolating infrequently-dividing, slow-cycling cells, a feature which is typical of stem cells in their niche. The methods of the present invention are advantageously used as classical stem cells can be isolated. Further provided are methods for generating clonal populations and inhibiting the differentiation of these cells. In addition markers for distinguishing these cells from progenitor cells are also disclosed.



WO 2005/054445 A1